

#### ABSTRACT OF THE DISCLOSURE

Because there are different voltages at two current output terminals of a current divider, the voltages at the current input terminals of two current switch circuits are  
5 not affected mutually even with a large amplitude of local signals. Accordingly, the performance of a quadrature mixer can be enhanced by increasing the amplitude of the local signals. Bias currents are supplied to the two current switch circuits through the current divider from  
10 a common DC current source which essentially supplies a bias current to a V/I converter and, therefore, power consumption is reduced.